

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for preparing lactones which comprises catalytic carbonylating an oxirane ~~by catalytic carbonylation of oxiranes, wherein with~~ a catalyst system comprising

- a) at least one cobalt compound as component A and
- b) at least one metal compound of the formula (I) as component B,



where

- M Al, Mg or Zn,
- R hydrogen or C₁₋₃₂-alkyl, C₂₋₂₀-alkenyl, C₃₋₂₀-cycloalkyl, C₆₋₁₈-aryl, C₇₋₂₀-aralkyl or C₇₋₂₀-alkaryl, where substituents may be present on the carbon atoms other than the carbon atom bound to M,
- X Cl, Br, I, sulfonate, oxide, C₁₋₃₂-alkoxide or amide,
- n is a number corresponding to the valence of M and
- x is in the range from 0 to n,

with n and x being selected so that the compound is uncharged,

and wherein said oxirane is ethylene oxide, propylene oxide, butylene oxide, cyclopentene oxide or cyclohexene oxide is used as catalyst.

2. (Currently Amended) The process ~~A process~~ as claimed in claim 1, wherein the component A is selected so that a cobalt carbonyl compound is present under the reaction conditions.
3. (Currently Amended) The process ~~A process~~ as claimed in claim 1, wherein the component B is AlCl_xR_{3-x} where x is from 0 to 3 and R is C₁₋₆-alkyl.
4. (Currently Amended) ~~A catalyst~~ The process as claimed as defined in claim 1 with the exception of the combination Al(C₂H₅)₃/Co(acac)₃.

5. (Currently Amended) A process for preparing catalysts as defined in claim 4 by mixing the components A and B a catalyst which comprises mixing
- a) at least one cobalt compound as component A and
 - b) at least one metal compound of the formula (I) as component B,



(I)

where

M Al, Mg or Zn,

R hydrogen or C₁₋₃₂-alkyl, C₂₋₂₀-alkenyl, C₃₋₂₀-cycloalkyl, C₆₋₁₈-aryl, C₇₋₂₀-aralkyl or C₇₋₂₀-alkaryl, where substituents may be present on the carbon atoms other than the carbon atom bound to M,

X Cl, Br, I, sulfonate, oxide, C₁₋₃₂-alkoxide or amide,

n is a number corresponding to the valence of M and

x is in the range from 0 to n,

with n and x being selected so that the compound is uncharged.

6. (Currently Amended) The process as claimed in claim 5, A process for preparing catalysts as defined in claim 1, wherein said at least one cobalt compound is octacarbonyldicobalt.
7. (Currently Amended) The process as claimed in claim 5, A process for preparing catalysts as defined in claim 1, wherein said at least one metal compound of the formula (I) is trimethylaluminum, triethylaluminum, tri(sec-butyl)aluminum or triisopropoxyaluminum.
8. (Currently Amended) The process as claimed in claim 6, A process for preparing catalysts as defined in claim 6, wherein said at least one metal compound of the formula (I) is trimethylaluminum, triethylaluminum, tri(sec-butyl)aluminum or triisopropoxyaluminum.

9. (New) The catalyst as claimed in claim 5, with the exception of the combination
 $\text{Al}(\text{C}_2\text{H}_5)_3/\text{Co}(\text{acac})_3$.